though there are exceptions to this rule. The young larva, having emerged from the egg, grows for a number of days, until the epidermis, or true skin, has become too small. It then ceases feeding, attaches itself firmly to some point, and remains quiet for a time. During this period certain changes are taking place, and then the skin splits along the middle line from the head to the extremity of the last segment, and the caterpillar crawls forth from the skin, which is left behind it, attached to the leaf or branch to which it was fastened. The skin of the head sometimes remains attached to the head of the caterpillar for a time after it has moulted, and then falls off to the ground. Ordinarily not more than five, and frequently only four, moults take place between hatching from the egg and the change into the chrysalis. In cases where caterpillars hibernate, or pass the winter in inaction, a long interval necessarily elapses between moults. Some arctic species are known in which the development from the egg to the perfect insect covers a period of two or three years, long periods of hibernation under the arctic snows taking place. The manner in which the caterpillar withdraws itself from its exuviae, or old skin, is highly interesting. Every little spine or rough prominence is withdrawn from its covering, and the skin is left as a perfect cast of the creature which has emerged from it, even the hairs and spines attached to the skin being left behind and replaced by others.

The Food of the Caterpillar.—The vast majority of the caterpillars of butterflies subsist upon vegetable food, the only exceptions being the singular one already noted in which the larvae feed upon scale-insects. Some of the *Hesperiidce*, a group in which the relationship between butterflies and moths is shown, have larvae which burrow in the roots and stems of vegetation.

Duration of the Larval State.—The duration of the larval state varies greatly. In temperate climates the majority of species exist in the caterpillar state for from two to three months, and where hibernation takes place, for ten months. Many caterpillars which hibernate do so immediately after emerging from the egg and before having made the first moult. The great majority, however, hibernate after having passed one or more moults. With the approach of spring they renew their feeding upon the first reappearance of the foliage of their proper food-plant, or are transformed into chrysalids and presently emerge as perfect insects.